CLAIMS

1. A surface-acoustic-wave-sensor included oscillator circuit having a piezoelectric substrate, an electrode for exciting a surface acoustic wave, formed on the piezoelectric substrate, and a reaction film that is formed on the piezoelectric substrate so as to cover the electrode for exciting the surface acoustic wave and that is bound to a target substance or a binding material to be bound to the target substance, a surface acoustic wave sensor capable of detecting a bit of mass loading on the basis of a variation in frequency being connected as a resonator,

wherein the surface-acoustic-wave-sensor included oscillator circuit includes a direct-current cutting capacitor connected in series to the surface acoustic wave sensor, and an impedance matching circuit including the direct-current cutting capacitor is formed in the surface-acoustic-wave-sensor included oscillator circuit.

2. The surface-acoustic-wave-sensor included oscillator circuit according to Claim 1,

wherein the impedance matching circuit includes an inductance element connected in series to the direct-current cutting capacitor, a first capacitor connected between one end of the inductance element and ground potential, and a second capacitor connected between the other end of the inductance element and the ground potential.

3. The surface-acoustic-wave-sensor included oscillator circuit according to Claim 1 or 2, further comprising a resistor connected between a connection point between the surface acoustic wave sensor and the direct-current cutting capacitor and the ground potential.

4. The surface-acoustic-wave-sensor included oscillator circuit

according to any of Claims 1 to 3,

wherein the surface acoustic wave sensor uses a two-port surface acoustic wave resonator.

5. The surface-acoustic-wave-sensor included oscillator circuit according to Claim 4,

wherein the surface acoustic wave sensor using the two-port surface acoustic wave resonator has first and second ports,

wherein the surface-acoustic-wave-sensor included oscillator circuit includes first and second direct-current cutting capacitors as the direct-current cutting capacitor,

wherein the surface-acoustic-wave-sensor included oscillator circuit includes, as the impedance matching circuit, a first impedance matching circuit that has first and second terminals, the first terminal being connected to the first port, and includes the first direct-current cutting capacitor, and a second impedance matching circuit that has first and second terminals, the first terminal being connected to the second port, and includes the second direct-current cutting capacitor, and

wherein the surface-acoustic-wave-sensor included oscillator circuit further includes a transistor connected to the second terminal of the first impedance matching circuit and to the second terminal of the second impedance matching circuit.

6. The surface-acoustic-wave-sensor included oscillator circuit according to Claim 5,

wherein a field effect type transistor is used as the transistor.

7. A biosensor apparatus using the surface-acoustic-wave-sensor included oscillator circuit according to any of Claims 1 to 6.